ABSTRACT

Fluid-handling methods and devices for ultrasonic manipulation of fluid-borne particles comprise a fluid-handling manifold and an ultrasonic particle manipulator defining an ultrasonic cavity within the manifold. Fluid-borne particles introduced into the manifold are manipulated by controlling ultrasonic standing waves at the ultrasonic cavity. Cavities having non-uniform configurations, asymmetric standing waves and/or multiple ultrasonic cavities within the manifold are operative to control the movement of the fluid-borne particles, optionally including collecting and holding such particles, transferring particles through an intersection from one channel to another, etc. Solid phase extraction (SPE) particles, biological particles and other fluid-borne particles can be manipulated within the fluid-handling manifold.

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(71) Applicant *(for all designated States except US)*: **PROTASIS CORPORATION** [US/US]; 734 Forest Street, Marlborough, MA 01752 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **STRAND, David** [US/US]; 16 Nason Hill Lane, Sherborn, MA 01770 (US). **BARROW, David** [GB/GB]; 61 Lake Road West, Roath Park, Cardiff CF23 5PH (GB). **CEFAI, Joseph** [US/US]; 17 Quarry Road, Swansea SA5 9DJ (GB).

(74) Agents: **MCDERMOTT, Peter, D.** et al.; Banner & Witcoff, Ltd., 28th floor, 28 State Street, Boston, MA 02109-1775 (US).

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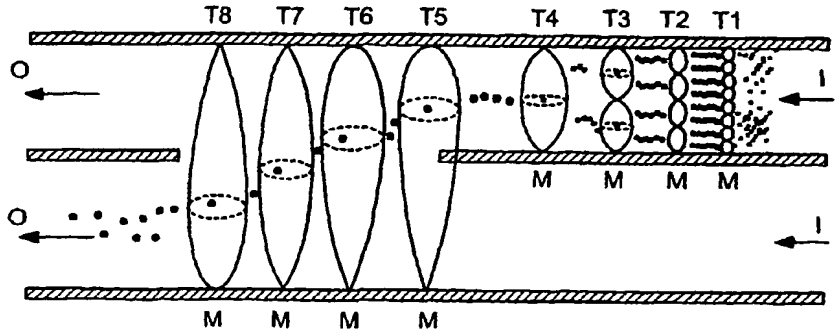

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